invented the idea, which might have come directly or indirectly from Mr. Scroggie himself.

I do not know the order of importance of the various factors, but somehow or other a scheme was worked out that was compared directly with the elementary theory of structures.

To have been a poor second in making a discovery, after obtaining help from others, and to have developed it incompletely and not used it in practice, hardly provide a basis on which to claim an invention. I make no such claim.

In future, I will remember to call the notation after Mr. Scroggie; but I have been well served by the classical notations and will certainly continue to use them.—Yours faithfully,

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22nd March 1971

CIRCUIT CONVENTIONS

Dear Sir—I appear to have offended M. G. Scroggie, as he sets me some mammoth tasks in his letter (Feb. 1971 *E & P*, p. 82), which I would not feel like attempting even if I had much more free time. If he is under the impression that I am claiming to have invented the Scroggie/Bow notation, he is mistaken. As far as I know, Mr. Scroggie was first in the field, and was the only one to publish on the subject; so that history belongs to him. My remarks at the top of column three on p. 293 in the August 1970 *E & P*, referred to by him, were an invitation to anybody who has not met the idea to try it out. They contain no reference to the origin of the notation, of which I know very little.

To clear up any further misunderstandings, my own investigation was a brief one concerned with the use of the idea in teaching. Mr. Scroggie will probably consider my preference for the classical symbols an unwise choice. I was led to undertake the investigation because of five material facts:

- I had worked as a transformer engineer in 1938 and 1946
- I had been teaching certain classes of mechanical engineers some structures
- an interest in matrix analysis of circuits led me to devise a concise symbolism in which a loop current enclosing elementary meshes having perimeters α, β and γ was represented by $I_{\alpha\beta\gamma}$
- at some stage, the α, β and γ were placed in the meshes
- a colleague suggested that the symbols might be used to represent branch currents; he made no claim to have